

Positive User Authentication Devices

MODEL No.	DESCRIPTION	LIST PRICE
TK-001	Single User TeleKEY Automatic in-line device-to-device token authenticator. Activation via Keyswitch on front panel.	\$ 300
MK-100	Multi-User MagnaKEY Functionally identical to the TK-001. Activation is accomplished via integral magnetic cardreader using any standard ABA formatted credit card. Up to 100 user capacity.	\$ 400
PK-001	PassKEY Hand held Dynamic Password Generator/Calculator for "Token" authentication.	\$ 100
PAM-1	Pager Access Module. A CCL software module which enables any digital display pager to be used as a valid "token" device for direct access authentication. Number of pagers accommodated depends on system memory capacity.	\$ 500
SK-1C SK-1M SK-5M SK-10M	SofKEY for MS-DOS A software security module to convert PCs, Laptops and Notebooks operating under MS-DOS into "Dynamic Password" type tokens for challenge/response authentication with DPS and IPC security devices. Supports up to 100 users Supports up to 1,000 users Supports up to 5,000 users Supports up to 10,000 users	\$ 500 \$ 2,000 \$ 5,000 \$ 7,500
SKP-1C SKP-1M SKP-5M SKP-10M	SofKeyPlus for Windows 3.1 A software security module to convert PCs, Laptops and Notebooks operating under Windows 3.1 into "Dynamic Password" type tokens for challenge/response authentication with DPS and IPC security devices. Supports up to 100 users Supports up to 1,000 users Supports up to 5,000 users Supports up to 10,000 users	\$ 500 \$ 2,000 \$ 5,000 \$ 7,500
TSM - 1	Token Support Module Supports additional tokens such as SecureNet Key, MultiSync Card, etc. Price shown is per token type.	\$ 1,500

INSTALLATION / SITE TRAINING SERVICES

Installation and on-site system operation/administration training services are available at a cost of \$ 1,000/day, portal to portal, plus Travel & Expenses.

On-site custom application programming or CCL training services are available at a cost of \$ 1,000/day, portal to portal, plus Travel & Expenses.

A Maintenance Service Agreement is available for all products listed. Prices will be quoted upon request.

ALL PRICES ARE FOB EDISON, N.J.

TERMS: NET 30 DAYS

MicroFrame, Inc.

21 Meridian Road • Edison, NJ 08820 • (908) 494-4440

Fax# (908) 494-4570

MicroFrame User Price List

Doc. No. 30804.1430

Effective: August 1, 1993

Port Security & Alarm Management Systems

Secure Sentinel IPC Series "Fully Programmable" Intelligent Port Controllers											
Model No.	# Int. Modems	# RS-232 Ports	14.4kbps Modem*	1MB Memory *	48V DC Power	Holdover Battery	Security Mgr	Alarm Mgr	CDR Mgr **	Environ. Mgr*	List Price
IPC-104	0	4	n/a	n/a	opt	opt	std	std	n/a	opt	\$ 1,250
IPC-200	1	1	opt	n/a	opt	opt	std	std	n/a	opt	\$ 1,250
IPC-300	1	2	opt	n/a	opt	opt	std	std	n/a	opt	\$ 1,450
IPC-400	2	4	opt	n/a	opt	opt	std	std	n/a	n/a	\$ 1,950
IPC-500	1	6	opt	n/a	opt	opt	std	std	n/a	n/a	\$ 1,950
IPC-310	1	2	opt	std	opt	opt	std	std	std	opt	\$ 2,495
IPC-410	2	4	opt	std	opt	opt	std	std	std	n/a	\$ 2,995
IPC-510	1	6	opt	std	opt	opt	std	std	std	n/a	\$ 2,995
Dial Port Sentry Single-Port Security Management Systems											
DPS-102	0	2	n/a	n/a	n/a	n/a	std	n/a	n/a	n/a	\$ 795
DPS-104	0	4	n/a	n/a	n/a	n/a	std	n/a	n/a	n/a	\$ 995
DPS-200	1	1	n/a	n/a	n/a	n/a	std	n/a	n/a	n/a	\$ 995

* Factory Installed Option

** Requires 1MB Memory Option

Model No.	Available Options	List Price
IPC-XXX F	14.4kbps Internal Modem	\$ 250
IPC-XXX R	Real World Interface Board (for use with Environmental Management Application)	\$ 380
DCC-1	Dual Contact Closure Input	\$ 70
BBU-12	Battery Back-Up Unit	\$ 125
BBU-48	48VDC Power Supply with Battery Back-Up	\$ 225
EMC-1	Environmental Management Application Program (Requires Real World Interface Board)	\$ 250

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	SofKEY for MS-DOS A software security module to convert PCs, Laptops and Notebooks operating under MS-DOS into "Dynamic Password" type tokens for challenge/response authentication with DPS and IPC security devices.	
SK-1C	Supports up to 100 users	\$ 500
SK-1M	Supports up to 1,000 users	\$ 2,000
SK-5M	Supports up to 5,000 users	\$ 5,000
SK-10M	Supports up to 10,000 users	\$ 7,500
	SofKeyPlus for Windows 3.1 A software security module to convert PCs, Laptops and Notebooks operating under Windows 3.1 into "Dynamic Password" type tokens for challenge/response authentication with DPS and IPC security devices.	
SKP-1C	Supports up to 100 users	\$ 500
SKP-1M	Supports up to 1,000 users	\$ 2,000
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SKP-10M	Supports up to 10,000 users	\$ 7,500
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TERMS: NET 30 DAYS

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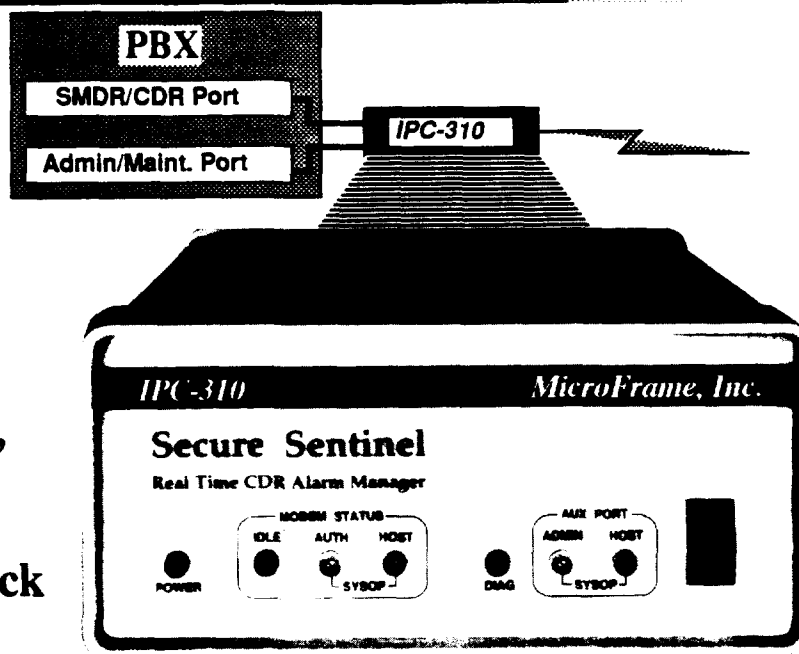
MicroFrame

Secure Sentinel[®]

Model

IPC-310

**Intelligent "Dual-Port"
Controller combines
*Real-Time CDR Monitoring,
Maintenance Port Security,
and Alarm Management*
to provide Around-the-Clock
Toll Fraud Loss Control!**



When a CDR alarm condition is detected, Secure Sentinel can automatically disable the abused facility adding a new dimension of control to Toll Fraud Loss Prevention!

Secure Sentinel[®] PBX Programs

Port Security Manager

Secures, monitors, controls and logs all dial access to the PBX Maintenance port using a variety of advanced caller authentication technologies.

- Prevents unauthorized access to Maintenance Port
- Captures and logs all port activity
- Supports central administration and control

Alarm/Event Manager

Manages CDR threshold alarm processing, determines alarm condition and status, and automatically executes appropriate reporting and/or corrective action procedures.

- Dials single or multiple PC, Pager, or FAX numbers
- Escalates alarm reporting to insure response
- Administers PBX via maintenance port connection

Real-Time CDR Alarm Generator

Continuously monitors and analyzes CDR trend data to determine if current activity exceeds predefined threshold levels within the defined call classifications. Automatically transmits threshold violations to the Alarm/Event Manager for prompt execution of appropriate reporting and/or corrective action procedures.

- "Auto-Learn" mode to establish call profiles
- Controls based on both calls/hr and call minutes/hr
- User definable call classifications

Connected to both the PBX Maintenance Port and the SMDR/CDR Port, the **Secure Sentinel IPC-310** uniquely addresses the two key elements of a sound toll fraud loss prevention program, namely: to protect the maintenance port from unauthorized access and continuously monitor the Call Detail Records for unusual activity. This integrated approach also enables automated control of the PBX via the maintenance port when an alarm condition is detected.

In addition to reporting the CDR alarm condition to one or more locations and escalating the report to a higher level if a response is not received within a predefined period, the Secure Sentinel can log on to the maintenance port as a system administrator and disable the abused facility.

Featuring centralized administration and control using convenient menu-driven commands, simplified installation, and a comprehensive audit trail of all system activity, the **Secure Sentinel IPC-310 Controller**

- Secures the PBX Maintenance Port
- Automatically "Learns" CDR Activity Profiles
- Continuously Monitors CDR Activity
- Reports and Manages CDR Alarms

In a single, easy-to-use, compact and cost effective package.

Its like having a dedicated Administrator guarding every PBX around the clock!

Secure Sentinel IPC-310 Operating Characteristics

System Initialization

Since both the Remote Access Maintenance Port and the SMDR Port are connected to the IPC-310 and share a common phone line, the monthly cost of an additional line to support the CDR reporting function is eliminated.

The local PBX Control Terminal may also be connected to the IPC-310 "AUX" port and used to administer both the PBX and the Secure Sentinel. Administrative access to the Secure Sentinel via this port requires the proper pre-authentication and authorization level.

System Administrators are guided through the simple set-up process by a series of menu driven prompts which enable quick and easy initialization of both the Remote Access Maintenance Port Security function and the Real-Time CDR Alarm Manager. Any combination of available authentication technologies may be selected for the port access control mechanism. Up to 20 user defineable CDR control parameters are available for establishing the alarm criteria. Threshold levels include both percent deviation from normal call profile and maximum number of events for each of the control parameters.

Auto-Learn Mode for Dynamic Profiling

The Secure Sentinel CDR Alarm Manager incorporates a unique "Auto-Learn" mode which enables it to automatically "learn" the normal activity patterns for each of the selected parameters to establish the baseline profile for control purposes. Where historical CDR records exist on electronic media, they can be automatically loaded. Secure Sentinel continues to update the historic data files in real-time generating a Dynamic Call Profile which will automatically adjust for periodic and seasonal trends.

Typical Operation

The Secure Sentinel IPC-310 continuously monitors and analyzes the CDR trend data to determine if current activity exceeds pre-defined threshold levels within the selected criteria. If an alarm condition is identified, a series of pre-defined action routines is set in motion which may include transmitting the alarm code to one or more PC locations or personal pagers, escalating the alarm to a higher level if no activity is sensed on the maintenance port within a preset time, and/or executing predetermined corrective action procedures within the switch.

A log of all system activity along with the most recent 500 CDR records is maintained for analysis purposes.

Technical Specifications

Basic Secure Sentinel IPC-310 Platform

Authentication Modes

Callback:
Direct Dial Tokens:

Type

Fixed/Variable Callback, Password Only
In-Line: TeleKEY, MagnaKEY, SofKEY
Off-Line: PassKEY and Other Popular Tokens

Operating Characteristics

Internal Modem: 2400 bps with MNP level 5 Error Correction
ANI Compatible
Maximum Link Speed: 19.2 Kbps, Speed Matching between Ports
Digital Connections: Host 1 - RS-232/DB25S, Host 2 - RS232/DB9S
Aux Port - RS-232/DB25S
Analog Connection: RJ11
Standard Display: Red, Green, Yellow LED Indicators
Standard Power: 110 / 220 / 240 VAC, 50 / 60 Hz
Optional Power: 48V to 52V DC
Back-up Power: Holdover Battery included
Standard Memory: 1MB Battery Supported Static RAM
Buffer Memory: Programmable
Temperature Range: 0 to 40 degrees Centigrade
Relative Humidity: to 95%, non-condensing

Dimensions

5.75" x 9.50" x 2.75"

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Fax# (908) 494-4570

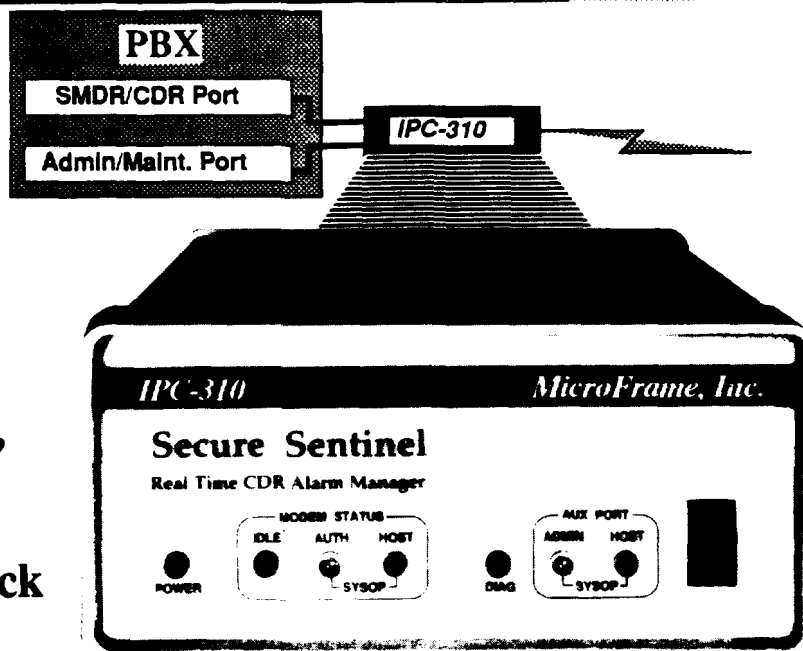
MicroFrame

Secure Sentinel[®]

Model

IPC-310

**Intelligent "Dual-Port"
Controller combines
Real-Time CDR Monitoring,
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When a CDR alarm condition is detected, Secure Sentinel can automatically disable the abused facility adding a new dimension of control to Toll Fraud Loss Prevention!

Secure Sentinel[®] PBX Programs

Port Security Manager

Secures, monitors, controls and logs all dial access to the PBX Maintenance port using a variety of advanced caller authentication technologies.

- Prevents unauthorized access to Maintenance Port
- Captures and logs all port activity
- Supports central administration and control

Alarm/Event Manager

Manages CDR threshold alarm processing, determines alarm condition and status, and automatically executes appropriate reporting and/or corrective action procedures.

- Dials single or multiple PC, Pager, or FAX numbers
- Escalates alarm reporting to insure response
- Administers PBX via maintenance port connection

Real-Time CDR Alarm Generator

Continuously monitors and analyzes CDR trend data to determine if current activity exceeds predefined threshold levels within the defined call classifications. Automatically transmits threshold violations to the Alarm/Event Manager for prompt execution of appropriate reporting and/or corrective action procedures.

- "Auto-Learn" mode to establish call profiles
- Controls based on both calls/hr and call minutes/hr
- User definable call classifications

Connected to both the PBX Maintenance Port and the SMDR/CDR Port, the **Secure Sentinel IPC-310** uniquely addresses the two key elements of a sound toll fraud loss prevention program, namely: to protect the maintenance port from unauthorized access and continuously monitor the Call Detail Records for unusual activity. This integrated approach also enables automated control of the PBX via the maintenance port when an alarm condition is detected.

In addition to reporting the CDR alarm condition to one or more locations and escalating the report to a higher level if a response is not received within a predefined period, the Secure Sentinel can log on to the maintenance port as a system administrator and disable the abused facility.

Featuring centralized administration and control using convenient menu-driven commands, simplified installation, and a comprehensive audit trail of all system activity, the **Secure Sentinel IPC-310 Controller**

- Secures the PBX Maintenance Port
- Automatically "Learns" CDR Activity Profiles
- Continuously Monitors CDR Activity
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Secure Sentinel IPC-310 Operating Characteristics

System Initialization

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The local PBX Control Terminal may also be connected to the IPC-310 "AUX" port and used to administer both the PBX and the Secure Sentinel. Administrative access to the Secure Sentinel via this port requires the proper pre-authentication and authorization level.

System Administrators are guided through the simple set-up process by a series of menu driven prompts which enable quick and easy initialization of both the Remote Access Maintenance Port Security function and the Real-Time CDR Alarm Manager. Any combination of available authentication technologies may be selected for the port access control mechanism. Up to 20 user defineable CDR control parameters are available for establishing the alarm criteria. Threshold levels include both percent deviation from normal call profile and maximum number of events for each of the control parameters.

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Typical Operation

The Secure Sentinel IPC-310 continuously monitors and analyzes the CDR trend data to determine if current activity exceeds pre-defined threshold levels within the selected criteria. If an alarm condition is identified, a series of pre-defined action routines is set in motion which may include transmitting the alarm code to one or more PC locations or personal pagers, escalating the alarm to a higher level if no activity is sensed on the maintenance port within a preset time, and/or executing predetermined corrective action procedures within the switch.

A log of all system activity along with the most recent 500 CDR records is maintained for analysis purposes.

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Basic Secure Sentinel IPC-310 Platform

Authentication Modes

Callback:
Direct Dial Tokens:

Type

Fixed/Variable Callback, Password Only
In-Line: TeleKEY, MagnaKEY, SofKEY
Off-Line: PassKEY and Other PopularTokens

Operating Characteristics

Internal Modem:	2400 bps with MNP level 5 Error Correction ANI Compatible
Maximum Link Speed:	19.2 Kbps, Speed Matching between Ports
Digital Connections:	Host 1 - RS-232/DB25S, Host 2 - RS232/DB9S Aux Port - RS-232/DB25S
Analog Connection:	RJ11
Standard Display:	Red , Green, Yellow LED Indicators
Standard Power:	110 / 220 / 240 VAC, 50 / 60 Hz
Optional Power:	48V to 52V DC
Back-up Power:	Holdover Battery included
Standard Memory :	1MB Battery Supported Static RAM
Buffer Memory:	Programmable
Temperature Range:	0 to 40 degrees Centigrade
Relative Humidity:	to 95%, non-condensing

Dimensions

5.75" x 9.50" x 2.75"

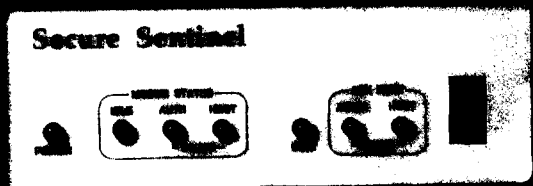
MicroFrame, Inc.

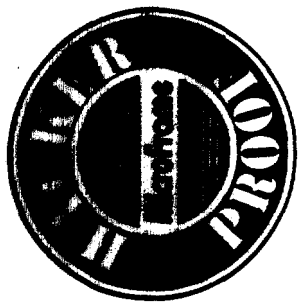
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MicroFrame

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Maximum S

MicroFrame's Secure Sentinel product family consists of a series of stand-alone, programmable hardware platforms, called Intelligent Port Controllers (IPCs). Each IPC supports a range of Secure Sentinel applications that can be combined to provide comprehensive Remote Access Security, Alarm Management, Environmental Monitoring and Control, and PBX Toll Fraud Detection. The Intelligent Port Controllers are available in a variety of configurations designed to run any combination of the Secure Sentinel applications.

The Secure Sentinel is ideally suited for managing the maintenance and control ports of every device in a widely distributed network. It features centralized administration & control using convenient menu driven commands, simple installation and a comprehensive audit trail of all activity. The Secure Sentinel's ability to continuously monitor and immediately report alarm conditions, provides a valuable network management tool that can reduce network downtime and yield a significant return-on-investment.

Port Security Manager

Secures remote access to all ports protected by a the IPC platform using a variety of advanced authentication technologies including Callback, PassKEY, SofKEY, and Pager Access. Monitors, controls, and logs all activity on each port and provides central and/or local audit report.

Alarm/Fault Manager

Monitors host device's internal diagnostic routines and fault tables, determines alarm status, and automatically executes appropriate reporting and/or corrective action procedures. Transmits alarms to a single or multiple PCs, personal pagers, etc. and can escalate alarm reporting to ensure timely response. Allows programmed administration of the host device via the maintenance port connection.

Real-Time CDR Alarm Manager

Continuously monitors and analyzes Call Detail Records (CDR) to detect toll fraud by comparing real-time call activity using both "Calls per Hour" and "Call-minutes per Hour" against preset thresholds in a range of user defineable call classifications. If fraud is detected, the program automatically notifies Alarm Manager for prompt execution of appropriate reporting and/or corrective action procedures. The program includes an "Auto-Learn" mode for dynamically establishing normal call activity profiles.

Security Plus

Environmental Monitoring and Control (EMAC)

EMAC continuously monitors temperature, humidity, moisture, battery voltage level, LED status indicators, etc. to determine if current environmental conditions or trends exceed preset thresholds. It automatically reports alarm conditions; can take corrective action using multiple internal relays to activate appropriate external environmental controls.

Real World Interface Module

The environmental management application requires the use of the Real World Interface (RWI) hardware module which translates the voltage readings from various analog environmental sensors into meaningful temperature, humidity, battery voltage, etc. data for analysis by the EMAC program.

The RWI feature includes A/D conversion and supports six discrete sensor inputs plus the battery voltage monitor. Change of State indicators, such as contact closures and LED status lights, can also be monitored.

Control of external devices, such as auxiliary fans or air conditioners, may also be directed via on-board relays.

PBX Toll Fraud Loss Prevention

The two key elements of an effective PBX toll fraud loss prevention program are (1) to protect the maintenance port from unauthorized access and (2) continuously monitor the Call Detail Records (CDR) for unusual activity. The multi-port Secure Sentinel IPC-310, 410 and 510 platforms uniquely address both requirements by combining the Security, Alarm, and CDR applications in a single hardware platform connected to both the maintenance and CDR ports on the PBX. In addition to immediately reporting a detected fraud condition and escalating the report if a timely response is not received, the Secure Sentinel can log on to the maintenance port and automatically disable the abused facility.

Custom Solutions

The inherent programmability and hardware configuration flexibility of the Secure Sentinel IPC product family allows us to customize our security and network management solutions to meet your exact network and organizational requirements. The ability to field upgrade the performance characteristics of the Secure Sentinel line assures that you will continue to be able to meet the changing needs of your network with minimal effort and investment.

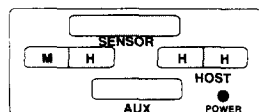
Feature Chart

Features	Internal Modems	RS-232 Ports *	1 Mb Memory	Security Manager	Alarm Manager	CDR Manager	Environ. Manager
IPC-104	0	4	opt	std	std	n/a	opt
IPC-200	1	1	n/a	std	std	n/a	opt
IPC-300	1	2	n/a	std	std	n/a	opt
IPC-400	2	4	n/a	std	std	n/a	n/a
IPC-500⁺	1	6	n/a	std	std	n/a	n/a
IPC-310	1	2	std	std	std	std	opt
IPC-410	2	4	std	std	std	std	n/a
IPC-510⁺	1	6	std	std	std	std	n/a

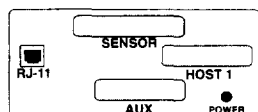
* All units have an additional RS-232 Aux Port for administrative use.

+ Volume orders only for IPC-500 and IPC-510.

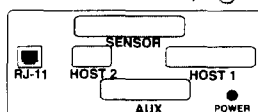
Rear Panel Configurations



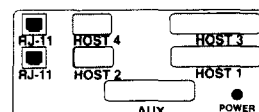
IPC-104



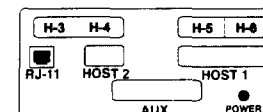
IPC-200



IPC-300/310



IPC-400/410



IPC-500/510

Specifications*

Authentication:

Callback
Direct Dial Tokens

Type:

Password Callback (Fixed/Variable), Password only
In-Line: TeleKEY, MagnaKEY,
Stand Alone: PassKEY, Pager and other popular Tokens
Software: SofKey, SofKeyPlus

Operation:

Internal Modem

Maximum Link Speed
Connections

Standard Display

Standard Power

Buffer Memory

Temperature Range

Relative Humidity

2400 bps with MNP level 5 Error Correction
9600 bps with MNP Level 5 Error Correction (optional)
19.2 Kbps, Speed Matching between Ports
RJ11, DB9S, DB25S
Red, Green, Yellow LED Indicators
110 VAC, 50/60 Hz (220/240 Available)
Programmable
0-40 degrees Celcius
to 95%, non-condensing

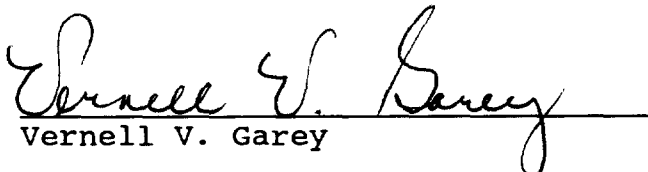
Dimensions:

5.78" x 9.38" x 2.83"

*Specifications subject to change

CERTIFICATE OF SERVICE

I, Vernell V. Garey, do hereby certify that on this 10th day of February, 1994, the foregoing **"Reply Comments"** in CC Docket No. 93-292 was served by first class mail, postage paid (unless otherwise indicated) on the following parties listed below.


Vernell V. Garey

***BY HAND**

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